



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/531,276

04/13/2005

Yoshiyuki Kohno

35355/53

5069

23838 7590 06/12/2008

KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER

ARNBERG, MEGAN C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

06/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/531,276 | Applicant(s) KOHNO ET AL. | |
| | Examiner MEGAN ARNBERG | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

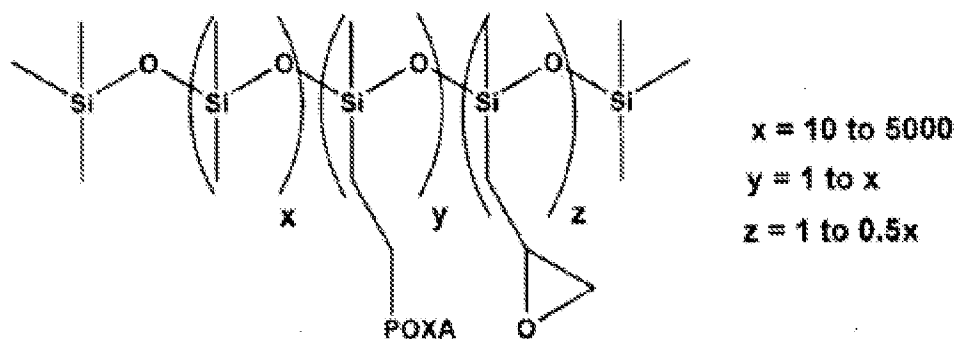
Claims 1-3, 6-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pines et al. (U.S. Pat. 4,184,004) in view of Eckberg et al. (U.S. Pat. 5,539,013).

Regarding claims 1-3 and 10: Pines et al. teaches a polyoxyalkylene polymer/oxyalkylene polymer main skeleton (col. 2 lines 4-6) with an epoxy containing siloxane end group, $MD_xD'_yD''_zM$ where M of formula (1) (col. 2 line 13) is $(CH_3)_3SiO_{0.5}$

Art Unit: 1796

(col. 2 line 16), D is $(\text{CH}_3)_2\text{SiO}$ (col. 2 lines 29-32), D' is $\text{CH}_3\text{R}^1\text{SiO}$ (col. 2 lines 45 & 34), wherein R^1 is a polyoxyalkylene unit (POXA), (col. 2 line 47) and D'' is $\text{CH}_3\text{R}_2\text{SiO}$ (col. 2 lines 67 & 34), wherein R^2 is a monovalent organic radical containing at least one vicinal epoxy group (col. 2 lines 68). Pines et al. teaches the epoxy group with either alkyl or ether linkage between the hydrocarbon group and the epoxy group (col. 3 lines 30-34). Additionally, wherein $x=10$, which corresponds to the instant n, $y=1-x$, which corresponds to the instant l, and $z=1$, which corresponds to the instant m (col. 3 lines 13-50). When $x=10$ and $y=1-10$ (x), the instant $m+n$ is greater than 10 and less than 20. See figure below.

fig. 1
Reference US Patent # 4,184,004



Pines et al. does not teach a polymer with an epoxy containing siloxane at both ends. However, Eckberg et al. teaches a polyoxyalkylene polymer whereby there are epoxy containing siloxane groups at both ends (col. 5 lines 10-50). These epoxy groups contain from 2-20 carbon atoms. Pines et al. and Eckberg et al. are combinable because they are both concerned with the same field of endeavor, namely epoxy

functionalized organosilicone polymers. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the end group synthesis of Eckberg et al. with the polymer of Pines et al. and would have been motivated to do so for such desirable properties as a highly flexible, hydrophilic polymer.

Regarding claims 6 and 7: The patentability of a product does not depend on its method of production. See MPEP 2113. Therefore the product as claimed has been taught by the references as set forth above.

Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pines et al. (U.S. Pat. 4,184,004) in view of Eckberg et al. (U.S. Pat. 5,539,013) as applied to claim 1 above and in further view of Okamoto et al. (US 2001/0031315) when taken with Nakagawa et al. (US 2002/0137841).

Regarding claims 4 and 11: Pines et al. teaches the basic polymer with a polyoxyalkylene/polyether skeleton as set forth above. Not disclosed is the polymer has a saturated hydrocarbon skeleton selected from the group consisting of polyisobutylene, hydrogenated polyisoprene, hydrogenated polybutadiene and copolymers thereof. However, Okamoto et al. teaches a saturated hydrocarbon polymer with a silicon group (abstract) with a backbone of polymerized isobutylene, hydrogenated butadiene or isoprene (para. 60) with a molecular weight between 1000 and 20,000 (para. 66). Pines et al. and Okamoto et al. are combinable because they are both concerned with the same field of endeavor, namely functional group terminated polymers in which the backbone structure of the polymer produces desirable physical properties for the final

Art Unit: 1796

cured product. As evidenced by Nakagawa et al., polyethers and polyisobutylene, hydrogenated polybutadiene and hydrogenated polyisoprene are functional equivalents in a similar polymer (para. 3). At the time of the invention a person having ordinary skill in the art would have found it obvious to choose polyisobutylene, hydrogenated polybutadiene or hydrogenated polyisoprene as a polymer skeleton from a finite number of identified, predictable solutions for polymer skeletons, i.e. it would have been "obvious to try" the specific polymer structure of hydrocarbons for excellent heat resistance and durability.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pines et al. (U.S. Pat. 4,184,004) in view of Eckberg et al. (U.S. Pat. 5,539,013) as applied to claim 1 above and in further view of Nakagawa et al. (US 2002/0137841).

Regarding claim 12: Pines et al. teaches the basic polymer as set forth above. Not disclosed is the polymer skeleton is a vinyl polymer with a number average molecular weight is 5,000-50,000. However, Nakagawa et al. teaches a similar polymer with a vinyl backbone (para. 1) and a number average molecular weight between 5,900 and 25,400 (table 1). Pines et al. and Nakagawa et al. are combinable because they are both concerned with the same field of endeavor, namely functional group terminated polymers in which the backbone structure of the polymer produces desirable physical properties for the final cured product. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the vinyl polymer backbone of Nakagawa et al. with the polymer of Pines et al. and would have been

motivated to do so for such desirable properties as high weather resistance, transparency and other characteristics which polyether polymers do not have, as evidenced by Nakagawa et al. (para. 4).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 4, 6, 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5, 6, 7, 8 of copending Application No. 11/373306. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application claims a hydrocarbon polymer selected from polyisobutylene hydrogenated polybutadiene, hydrogenated polyisoprene and copolymers thereof, oxyalkylene

polymer or a vinyl polymer as a main chain skeleton with end groups that can be of the instant formula (1) or (2) and containing the specific epoxy functional groups of instant formula (3) and (4) and produced by the same methods as in instant claims 6 and 7. Although the claims are not identical, the subject matter of the instant claims are fully encompassed by the scope of the claims of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed May 19, 2008 have been fully considered but they are not persuasive, because:

A) Applicant's arguments that Pines et al. does not teach an oxyalkylene polymer with the epoxy containing silicon group at its ends is not persuasive. The polymer of Pines et al. is an oxyalkylene polymer with one end terminated in the epoxy containing silicon group. The combination of references teaches all of the claim limitations.

B) In response to applicant's arguments against the references of Pines et al. and Eckberg et al. individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, Eckberg et al. does teach "the incorporation of the polyether block (polyoxyalkylene) into the silicone backbone" as

applicant states on page 6 of the remarks section. It is not germane from which section of the Eckberg et al. polymer the properties are derived since that is not presented in the instant claims.

Applicant's arguments with respect to claim 4 have been considered but are moot in view of the new ground(s) of rejection.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGAN ARNBERG whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 1796

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. A./
Examiner, Art Unit 1796

/James J. Seidleck/
Supervisory Patent Examiner, Art Unit 1796